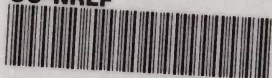


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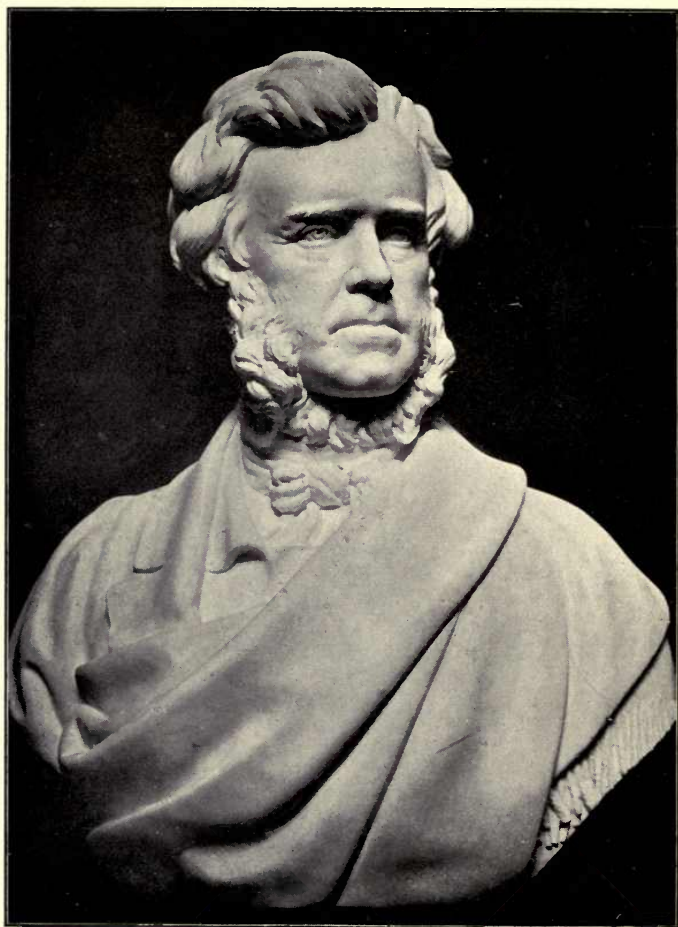




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THE CENTENARY OF HUGH MILLER



HUGH MILLER.

Mackay, Stirling.

THE CENTENARY
OF
HUGH MILLER

BEING

AN ACCOUNT OF THE CELEBRATION
HELD AT CROMARTY ON

22ND AUGUST, 1902

*Hugh Miller Centenary Celebration
Committee.*

GLASGOW

Printed at the University Press by

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1902

PREFACE.

FEW words are necessary by way of introducing to the public the following pages. They explain themselves even to those who may not previously have been aware of the Hugh Miller Centenary Celebration.

Nor is apology required for issuing in a permanent form addresses whose intrinsic merit is so conspicuous. The object of the Centenary Committee will have been gained, if in this way the audience met around the Monument can be multiplied and admirers of the "Stone Mason," scattered in many lands, can be made to feel that they were present in spirit on August 22nd.

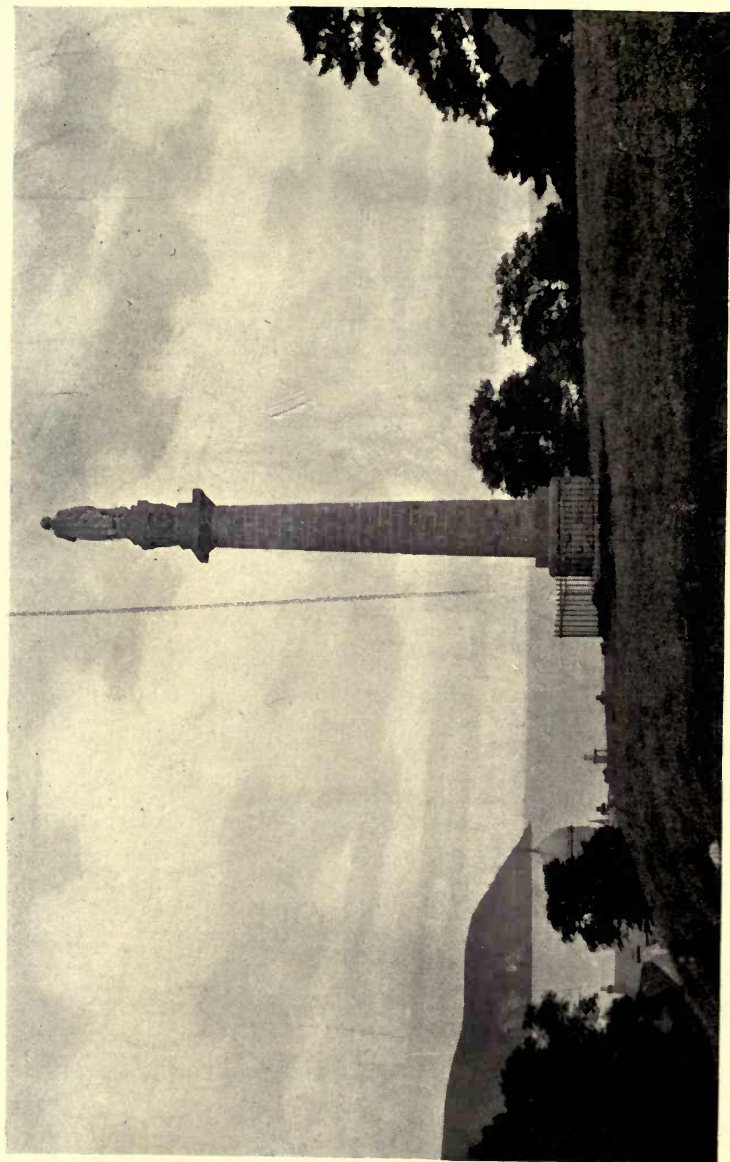
Though the actual month of Hugh Miller's birth was October, it was judged best for the purposes of the Commemoration to select a date in August. The day's proceedings abundantly justified the Committee, and bore testimony to the place our townsman occupies in the affectionate admiration

of his countrymen. The crowds assembled at Cromarty were gathered from many lands, and drawn from widely differing social ranks.

Naturally enough the newspaper press took a lively interest in the event, and it has been thought well to include in this volume a selection from the leaders of representative journals.

Besides the Celebration the Committee has from the first kept in view the erection of a Library and Institute to bear the name of Hugh Miller—a scheme which is likely soon to be realized through the munificence of Dr. Andrew Carnegie.

CROMARTY, *October*, 1902.



VIEW FROM HUGH MILLER'S MONUMENT.

MEETING AT THE MONUMENT.

THE Centenary party, numbering about 1500, assembled at 12.30 on the knoll on which the monument to Hugh Miller stands. The spot was happily chosen for the first of the celebrations. Hugh Miller's striking presentment in stone stood high over the gathering. A dais with chairs had been erected for the accommodation of the distinguished speakers, and around it ladies and gentlemen quickly arranged themselves. Provost Junor escorted Sir Archibald Geikie, Principal Rainy, Mr. Bignold, M.P., and other gentlemen to the platform.

Provost Junor said he had great pleasure in proposing that their worthy and respected member of Parliament should take the chair on that auspicious occasion.

Mr. Bignold took the chair, and asked Rev. Mr. Christie, Carlisle, to begin the proceedings with prayer.

The Chairman, who on rising was received with applause, delivered the following introductory address:—Ladies and gentlemen,—If any man, since the creation of the world, can truly be said to have been in league with the stones of the field, that man was this son of a Cromarty sailor, whose centenary we are gathered to-day to honour. I have been told that the materials and documents which he left behind him were sent to Australia for the compilation of a projected biography by his son-in-law, and that they have, for the time, disappeared; but the late Mr. Christie, the famous auctioneer, once said to me that he did not much believe in things being lost, and that he fully expected, sooner or later, that the stones out of Aaron's ephod would pass through the King Street salerooms. So, may be, these papers will be recovered, and the world know more of Hugh Miller. It is true that in early life, in 1828, he visited my country, and heard the old legend of the Gairloch hills, viz.: that it was the Cailliach Mhor who created them by dropping the stones through the bottom of the panniers on her back—and from that wild tale he started along the path which ultimately produced "The Old Red Sandstone." Christian, geologist, poet, he satisfied himself as well as his readers, that the Creator had breathed into man the spirit of power to affect the conditions of the earth from the time

when it was of no form and void—that man, made in the image of his Maker, was a fellow-worker with God. Hugh Miller was the very salt of natural science. His legacy to posterity is not so much his actual contribution to knowledge as the splendid inspiration of his life and example.

Ladies and gentlemen, is it too much to hope that this year of the Centenary of Hugh Miller will also be marked as the dawn of a happy future for his birth-place, and that the prosperity of Cromarty may be identified with the industry of her children of to-day as it once was in the case of Him who was “the greatest still with least pretence”? We are to have the privilege of hearing the famous geologist, Sir Archibald Geikie, who knew Miller personally in 1856. Principal Rainy needs no introduction from me: like Caius of Corioli, he lives in our camp-fire songs; but it will indeed be an abiding compliment to Cromarty that Professor Clarke should have visited us from New York. My province is limited to introducing these gentlemen to you.

Mr. Bignold then called on the Secretary to read letters of apology for absence.

The Secretary to the Centenary Committee read two letters of apology. The Right Hon. Mr. Bryce, M.P., wrote as follows:—“I greatly regret that, as I feared would be the case, and as I intimated when you did me the honour of inviting me, it turns out

that I shall not be able to attend the centenary meeting to celebrate the memory of Hugh Miller. I remember vividly the impression of true earnestness and simplicity which he made upon me, when, as a boy, I saw and heard him at a meeting of the British Association. He was one of the Scotsmen of his generation who was most typical of the fine qualities of the race, and he well deserves to be held in the affectionate and admiring recollection of the men of the North, from whom he sprang." Sir Hugh Gilzean Reid stated in his letter, that Hugh Miller's life had ever been to him, as to many others, an example and a stimulus. It was well to keep alive the memories and preserve the landmarks, and he joined with them in hearty fraternal good wishes.

Provost Junor, on behalf of the community, extended a hearty welcome to the visitors to the birthplace of Hugh Miller. It was his duty, he thought, to give a short resumé of the movement. Towards the end of last year several articles appeared in the newspapers advocating the celebration of Hugh Miller's centenary; the matter was brought before the Cromarty Town Council, when it was resolved to call a public meeting. At that meeting several proposals were made, but the scheme that found most favour was to endeavour to get up a Hugh Miller Institute, consisting of reading room and library and a museum for the reception of Hugh

Miller relics. A Committee was appointed to carry out this proposal, and that Committee appealed to admirers of Hugh Miller, not only in this country, but in America and the Colonies. This appeal did not meet with the ready response they expected. The sum of £350 had been subscribed to date, a fourth of that coming from the United States and the Colonies. Dr. Carnegie, that benefactor to education and mental training that does so much to elevate the masses, intimated his sympathy with the movement and his readiness to assist, and they were glad to see him present, and hoped he would be long spared among them. The Committee were hopeful that they would yet be able to commemorate the centenary of Hugh Miller in a fitting manner. He believed his work would live to benefit generations yet unborn.

Sir Archibald Geikie, who was applauded on rising, said he supposed he was one of the very few living geologists who were privileged with the friendship of Hugh Miller. It was therefore not only a public duty, but a deep personal gratification to him to be allowed to be there that day, to express his reverence for the man, and to acknowledge the debt which he owed to that early friend for his kindly services. The Provost had referred to the way in which Hugh Miller's memory was to be commemorated. He thought that if Hugh Miller had been alive and

had been asked in what form he would like to have his name handed down to posterity, he would probably have chosen some such form as the Committee had decided upon. The author of *The Old Red Sandstone* was proud to the end of his life to recall that he was a working man. Remembering his early struggles to provide himself with an English education, beyond what could be obtained at the parish-school, he would have rejoiced that his fellow townsmen would have the prospect of the opportunities that a good library and books of reference afforded, an advantage which unfortunately never came to him.

Since the idea of founding a free library and institute had been mooted, he sometimes asked himself what Hugh Miller might have been and done if he had had the advantage of such a library in his youth. He would have occasion in the afternoon to give a sketch of Miller's life and work, and would not detain the audience longer now. He might be allowed, however, to express the regret with which he had heard that the response to the appeal of the Committee had been less favourable than they hoped. He trusted that this arose rather from want of intimation to the public than from supineness in responding to the appeal, and that some steps might be taken to make the proposed scheme more widely known.

Principal Rainy, who was also received with loud applause, said it was a matter of very great pleasure to him to be allowed to say, however imperfectly, what he felt to be due to the memory of Hugh Miller. He also had had the privilege of some acquaintance with him, though not so intimately, he believed, as Sir Archibald Geikie. He had also had the privilege of being acquainted with some of Hugh Miller's children, and he had the privilege, which they shared with Scotsmen all over the world, of welcoming his writings in books and articles as they came out, and feeling the influence and inspiration of that remarkable mind and that remarkable heart.

Cromarty was doing well in remembering at the end of a hundred years from his birth what she owed to Hugh Miller, and what Scotland owed and felt in the same way. Hugh Miller had enriched, dignified, and ennobled not Cromarty only, but Scotland as a whole, and to his memory was due whatever could be done worthily to express the veneration and regard with which they cherished his name. He would not attempt to set forth what Hugh Miller was, and what his memory deserved at their hands. He merely meant to recall some impressions left on his mind as one who lived a considerable part of his life as a contemporary of Hugh Miller. He was

remarkable for the variety of his gifts and attainments.

In the first place, they remembered how he was a student and a servant of Science. He was undoubtedly a man inspired with a love of Science and sensible to its fascinations, thrilled by the impressions connected with the discovery of decisive facts in the branch of Science to which he devoted himself, and the service he rendered was very much this, in addition to the large number of contributions he was able to make, that he conveyed a sense of the fascination and the claims of the Science to which he devoted himself to very many minds and hearts that would not have been reached in the same way by any other instrumentality whatever. He led those who read his books or listened to him to the enchanted ground in connection with the Old Red Sandstone, and many another sandstone, and in that way those of them who were least scientific owed him the debt of feeling that Science meant something to them through him, if it meant very little through their own efforts or achievements.

In the next place, Hugh Miller was a man of culture, and early in life he demonstrated himself to be a man of mental cultivation. By mental cultivation he (Dr. Rainy) meant the attainment of that quality of mind which manifested itself in

Miller's esteem for literature, his interest in it, and his love for it. It was a singularly refining quality. Not all educated men came to be men of culture, came to be in that sense men who had taste and responsiveness, who offered their minds as musical instruments that were thrilled and attuned to melody by the literature of their land and race. Hugh Miller revealed that potency. He made that attainment early in life, and it grew with him as his life grew.

In the next place, Hugh Miller was one of those men who had the sacred inspiration and the desire and power, through literature, to impress themselves on other minds and generations. He began with attempts at poetry, which did not go very far, but the poetry of Hugh Miller was embodied in his wonderful prose, the poetry of feeling, the poetry of imagination, combined with all those substantial qualities of which prose ought to be the medium. He remembered very well in the old days, someone who was able to say that when he came first on Miller's writings, and marked their style, he said, "Who in the world could have written this? I thought this manner of writing English was one of the lost arts, lost with the last century." And through that medium what a variety of points he touched! He was slow to touch points he was not able to produce his effects

with, but how many points he did touch—the influences that formed his own life and character, the scenes and legends that made Cromarty and its neighbourhood what it had been and what it was. That branch of Science to which he devoted himself was commended to the minds and hearts of the people of Scotland by the charm with which he communicated his expositions of it, for Science needed expositors as well as discoverers.

And then there were all those other works of his. How worthy all the subjects were to which Hugh Miller devoted his pen. One felt as one surveyed them that his was a mind familiar with the really interesting aspects and the really noble and ennobling aspects of human life and human existence, which claimed his services and which profited by his efforts.

In that connection they remembered how that somewhat dangerous, somewhat perilous, but certainly grand and wonderful department of human effort—the periodical press—claimed him. He created and inspired a great newspaper, which, during the period of his own life, exerted an influence in Scotland of quite a peculiar kind. He (Dr. Rainy) did not at all suppose that all those present or all those who might be represented there would have agreed with all that was said in the famous articles of the *Witness*; but he did suppose that no one could look back with a candid eye without perceiving how Hugh Miller,

in that great effort—an effort dedicated to objects connected with the welfare of Scotland, and its civil and religious liberty—to which he attached the highest importance, thought that he was worthily expending his force, worthily devoting his energies to objects which commended themselves to him as being great and good; and, therefore, in that exhausting effort—it was always exhausting in that department of service—he claimed the respect and veneration still that are due to the great and good.

All this just led him (Dr. Rainy) to remind them that the one aspect of the matter to which they must after all have regard, was this—that this was a man who never was in the position, hardly even when he became master of the *Witness*, to give to what he regarded as the highest employment and ambitions and aims of his life more than fragments of his time. What he might have done in Science, in Literature, and in other departments that might have opened to him if he had been free to choose was another question. Hugh Miller was a working man, and as far as he (Dr. Rainy) could see, he was never in a hurry to become anything else. He continued not merely to honour and claim as brothers all working-men, but to retain a very strong sense of the healthiness and wholesomeness of the life of

a self-respecting working man. He could not but know and feel, certainly, that to have lived the life of a working man had the effect of seriously limiting his opportunities, whatever it did in strengthening and developing the character of the man, which it very likely did.

He (Dr. Rainy), however, doubted whether Miller would ever have cared to be anything else than a working man, unless, like all good men, he had fallen in love. As the lady of his choice was a lady accustomed to comforts greater than he might have regarded as necessary for himself, like all good men in those circumstances, he desired that his marriage should be attended with as little loss of comfort to her as possible, and so he turned his attention to the great duty of raising more money. But they were all convinced that then and afterwards there was a sense of proportion in Hugh Miller's mind that kept the question of money and comfort in a comparatively subordinate place.

It was well when they were carrying on that centenary movement, that it should be very explicitly said that Hugh Miller was not only himself a working man, but that he had the highest sense of the claims of the self-respecting working man to the respect and the honour of all classes of the community. He was not inclined to ask for

pity for the working man; all he asked for the working man was liberty and independence, and his desire was to see his class making itself felt and making its mark, not by escaping from the necessity of labour, but by contributing to make labour honourable and venerable to the whole community. He was constantly anxious to bring out in his own class and in the class from which he sprung, whatever was noble, lofty, and worthy. He would not say that Hugh Miller was exactly a flatterer of working men; he did not put forth conventional heroics about working men—he said some very plain and strong things to those working men who, as he thought, were not benefits to their own class or to other classes, and for that matter he (Dr. Rainy) did not really know how far Hugh Miller was in sympathy with some of those views and movements which are strongly agitating men's minds just now, although very likely, had he lived till the present time, he would have moved with the times. He had always regarded it as striking that Hugh Miller, with his sense of what was due to working men, claiming for himself and his class the respect of others, retained so sane and shrewd a view of what was really essential to the working man. It was in such circumstances that he attained to the beginnings and much of the progress of his mental cultivation,

that he attained to a knowledge of science, and a power of expounding it, that he attained to literary eminence, it was in those circumstances that he laid the foundation of it all.

And what did that mean? How could all that come about in the case of Hugh Miller, notwithstanding his remarkable powers, unless there had been in him that steady eye fixed on the best he knew in life, the best he saw in literature, the best he recognised in his friends, the best he could trace in the history of those who went before him, and the best he found revealed to him in the Scriptures and by Christian friends? And because the man was held by the best he knew, therefore his powers, whatever might have been the early disadvantages under which he suffered, came to their flower and their fruition. Therefore it was that we had not to mourn in connection with Hugh Miller any of those lapses in temptation which had sometimes saddened us in the lives of men whom we loved; and therefore it was that the example of Hugh Miller was so splendid an example, if he might say it, for all young Scotsmen. Hugh Miller regarded his calling and powers as calling and powers which he accounted it a privilege to place under the benediction of Christ. He was a Christian man who loved the Gospel and loved the Church. He was pretty blunt in his way of speaking of the Church at times, but he loved good men and good

women everywhere. He was not a man who gushed over the subject of religion. He was, like many men in these northern regions, reserved upon the subject of the relations between his own soul and God ; but no man who knew him doubted the honesty and the sincerity of his religious professions. He was in no respect what people would call disrespectfully a goody kind of man.

He was constitutionally a fighting man, and he (Dr. Rainy) doubted if any man ever enjoyed a battle more. He gave hard knocks, and was ready to take hard knocks in return. Hugh Miller was just a great mass of Scottish manhood. Nobody who saw him could doubt that the splendid outward form and face represented the genuine character of the man. They would excuse him for saying that there was an impression, and he believed Hugh Miller shared it, that he was not, or did not continue to be regarded in the Church which he served so well and faithfully as he had once been regarded, and that there was a disposition to minimise his place. There must have been some grounds for that impression or it would not have been cherished, but if there were, he took it that it arose from some of those cruel fatalities of human life which were unaccountable. However that might be, he was there to testify, as one who was by no means in his immediate entourage, by no means closely associated with him, that

throughout the whole of the Church there never was in the mind of the Church anything but reverence and gratitude for Hugh Miller. They always felt how much they owed to him. There were things that he did for the Church—there were impressions he formed for us—there was a certain tone, a something about Hugh Miller in his position as one of them, that was different from anything that Chalmers or Candlish or Guthrie, his old friend, or any of them could have done for them. He did a great work for them. They honoured his memory, and gratefully thought of him as a great gift which God gave not to one Church, or to one section of the community, but to the whole of them. When great Scotsmen died—of course when they lived they had to join one section of the Church and fight with the rest—but when they died all sections joined to lament their loss.

Professor Clarke of Albany said :

I am commissioned to tender to you on behalf of the Geological Society of America the greetings of above 250 zealous workers in geology across the sea, by whom the name and the labours of this unequalled man are to-day, nearly 50 years since his death, warmly cherished.

I am also commissioned to extend to you congratulations on this event from the University of

the State of New York, the supervising institution of all the higher institutions of education in that commonwealth.

I am delighted to be among you *propria persona*, because of the love and the honour which I have long borne for this man, and for the profound obligation by which I am bound for his magnificent example.

The younger generation of American geologists has read Miller's fine works less, I fear, than those who are more nearly my contemporaries. I have endeavoured to point out in some measure to the generation whose activities began only after Miller's books had been crowded aside by the profusion of later writings, in how much they are the losers so long as he goes unread. One of the most encouraging in this train of events is that many are now reading Miller for the first time.

In the minds of some geologists Miller pertains only to the history of geological science, much as in a broader sense do William Smith, Werner, Hutton, and Playfair, but I find him as much alive to-day, his observations as keen and pertinent (for I have been in position to appreciate them) as fifty years ago, as keenly vital to the affairs of to-day as are Sir Roderick Murchison and Sir Archibald Geikie, without whom we could not maintain our geological establishment.

In the course of our efforts to invite subscriptions to the objects of this centenary, I have heard but two protests, both of very mild character: one of these was, that Hugh Miller was not one of the founders of geology. That is a proposition which, notwithstanding his achievements, no one would attempt to deny. But of *this* he was the founder—he was the discoverer and first practitioner of the art of clothing geological observations in brilliant, vigorous, picturesque, and correct English. In this achievement he stands to-day as he did half a century ago, unequalled and unapproached.

I am disposed to lament the fact that so many of the younger geologists (this at least is true of the other side of the Atlantic) are being trained in technical or post-graduate university courses, where they have missed the rigorous training in *belles lettres* which the colleges of liberal arts so strongly enforce. They enter life with the sphere of their appreciation restricted, and rarely rise to an apprehension of such masterly narrative, forcible style, pure English, quaint humour, and relentless logic as that of Miller.

I specially honour and love the memory of this man as one loves and treasures through life the friends of childhood, as he loved and eternalised his friends of the Marcus cave. To my early boyhood's bubbling zeal for geological facts there was

no text-book guide save one, and that a dry one. These finer works came in my way. The *Old Red Sandstone* was the earliest of my teachers in geology. Then followed in irregular order the other well known and widely published books, and among them all it is the *Schools and Schoolmasters*, the story of his life to his grand climacteric, that continues to charm me most for its brilliant and fascinating narrative.

In the course of years it was my fortune to become specially concerned with the study of that great and widespread ancient formation, the Devonian, and with it, as a matter of course, the Old Red Sandstone as it is manifested on the other side of the water, specially in New York and Canada. The *Old Red Sandstone* brings to mind many well known names—Dick, Peach, Traquair; but two names will always represent to posterity the genius of that remarkable formation—Hugh Miller and Archibald Geikie.

In all my correspondence with our geologists concerning this proposed memorial, there were, as I have remarked, but two who gave expression to their objections to the proposition. One, unfamiliar with Miller's writings, took down from its shelf a copy of the *Footprints*, and opening it at random stumbled upon one of his powerful, thumping arguments against the transmutation hypothesis. Cutting it

out of its proper and timely association, and giving it a modern setting, the picture was unpleasing to him. But the service which Miller rendered to his time, to an intelligent public and to his church, by his unequalled fulminations against a raw and unformed hypothesis, ay, even to that hypothesis itself, cannot be overestimated. Even I can remember the day when the study of geology was perilous to one's good standing in a conservative community. Miller made it safe and secure, confirmed the church in the belief that this science was her handmaiden. The transmutation hypothesis is to-day the doctrine of evolution, and to this fact I believe Miller's attitude has contributed in no small way. Thereafter men dared. The tremendous arguments which Miller delivered were directed largely against unreliable data and untenable deductions from them—they are in great part as forcible and effective to-day as when these blows were delivered. Throughout many of the passages of this master of dialectics points are made and attitudes assumed which are to-day elements of this universally accepted doctrine; and were the man alive he would, I believe, be as much a master of this doctrine as he was the strongest and most virile opponent of the crude hypothesis from which it emanated.

In my native town in New York there is a public memorial to Sir Walter Scott, in my home city a fine

bronze statue of Robert Burns, and in the same state of New York 3000 feet of rock strata rising to high crests as the Catskill mountains stand as a proper and perpetual memorial of the man whose name can never be dissociated from the Old Red Sandstone—
Hugh Miller.

THE LUNCHEON.

A COMPANY of over 200 ladies and gentlemen afterwards sat down to luncheon in the Victoria Hall, which had been decorated for the occasion. The portrait of Hugh Miller, painted by Miss Davidson, his granddaughter, occupied the place of honour on the walls, and the words, "Such men are the glory of Scotland," were displayed in large letters. After lunch, Provost Junor, who presided, gave the toast of the King and Queen and Royal Family, and it was loyally pledged.

Dr. John Horne, F.R.S., who was received with cheers, gave the Memory of Hugh Miller. He said that in view of the address which was to be given that afternoon by his former distinguished chief, Sir Archibald Geikie, on the life and influence of Hugh Miller, he thought it would be improper for him to refer at any length to Miller's scientific work and its value. But there were certain distinctive features, characteristic of Miller's career,



TRIUMPHAL ARCH ON QUAY.

which might perhaps be briefly summarised. In his youth he exhibited something of that wilful, imperious spirit, which was often displayed by strong and resolute natures before they had acquired the discipline of experience. Like Scott, he derived very little from his school education, but he was undoubtedly conscious of the latent power within him. That consciousness drove him to develop his own self-education. He had a particular taste for a classic literary style, and during the long years that he wrought as a stone-mason he set himself, like Stevenson, at a later date, to make himself a master in the art. He read the best masters in prose and verse in the English language, and the standard which he set before him and acquired he never departed from.

But that was not the only field in which he acquired knowledge. He turned to that larger and perhaps richer field of Nature. When one thought of the time in which he lived and the difficulties he had to encounter, one could not fail to be impressed with the work which he accomplished when he first turned his attention to geology. Hugh Miller began to live at the close of the heroic age in the history of geological science. Hutton and William Smith had laid broad and deep the foundation of the science, but Miller had to interpret the facts for himself. Hence, when he

set to investigate his own region, limited in extent, but full of interest, he had to piece together the fragments which he found ; and by the sheer force of his genius, Cromarty had become a shrine of permanent fascination. He (Dr. Horne) could quote many instances of this, but he would only mention one.

A few years ago, when he was stationed at Fortrose on the work of the Survey, he happened to have a visit from Herr Drydalski, now the distinguished leader of the German Antarctic Expedition. When the latter found that he was within ten or twelve miles of Cromarty, he would on no account leave without seeing Hugh Miller's birthplace and the classic section with which every geologist is now familiar.

To return to Miller himself, his geological observations stirred that imaginative force which was one of his characteristic gifts. When he saw the ripple-marked stone, he thought of the tide on the sea-shore ; when he saw the fossil remains of fishes, his imagination was carried back to the conditions of the period in which they lived. It was not so much his power of original research as this remarkable faculty of presenting vivid pictures of remote geological periods, of the lands and seas and life of the time, that constituted Miller's claim to special recognition. At that time he had no rival in this

art, and the only one since in English was Sir Archibald Geikie; the only one on the Continent, De Lapparent, the leading writer in French on geology.

The question was often asked, What was the value of the scientific work which Hugh Miller performed? In answering that question one had to consider the state of research at the time. He disclosed, he hoped, no official information when he said that when Hugh Miller, *secundus*, was transferred to the Geological Survey of Scotland, it was his great desire to be allowed to map out the district rendered famous by his father, and he afterwards expressed his delight to find that his father had laid down with marvellous accuracy the broad outlines of its geological structure.

But the scientific side was not the only phase of Hugh Miller's nature. He was a man of broad humanitarian sympathies. He had a message which he delivered to working men. The venerable leader of the United Free Church had referred with remarkable power to the influence which he exerted, and the way in which he pointed out men's duties. No sounder philosophy of life could be found than that which he laid down in the opening chapter of the "Old Red Sandstone." There he told working men plainly that they would gain nothing by attending Chartist meetings. He told them

that as long as the world lasts there would be upper and lower classes ; that members of the upper classes sank to the lower, and that by the patent of nobility which sprang from character and intelligence, members of the lower classes rose to the upper. He told them that by the pursuit of knowledge and the exercise of the moral faculties, the humblest could attain to true happiness.

Another remarkable feature of his character was his intensely religious spirit, which made him an attached member of the Free Church, and it also made him an active power in the Church controversies of his time. It was often said by way of satire that Scotsmen revelled in ecclesiastical controversy. But when one read those pathetic articles which his grand-daughter had recently contributed to *Chambers's Journal*, one could not escape the conclusion that Miller's entry into that controversy was, for his own future career, a mistake, or if not a mistake, that it was at least unwise.

He was unwilling at first to take the position of a newspaper editor, and no one knew the reason better than himself. His literary style was the result of laborious application. He was not a man who could write with the printer's devil at his elbow. He was impatient of interference, and especially of clerical interference. Though he threw himself

into the conflict with great ability, the reaction upon himself was tremendous. It hampered his attitude to scientific work. As for his effort to reconcile the Mosaic economy with the geological record, that was only natural, and what was to be expected. It sprang from the reverent attitude of his mind and the intensity of his conviction; from his eagerness to reconcile his faith with what science told him was the truth.

It was always interesting to see what one great man thought of another. They were glad to have the account of Scott's meeting with Burns; and they were gratified to read the letter which Carlyle wrote to Miller. Carlyle was not by nature a genial critic; all the more remarkable therefore was the letter which he wrote in acknowledgment of Miller's volume, *My Schools and Schoolmasters*. Carlyle writes:

"You have, as you undertook to do, painted many things to us: scenes of life, scenes of nature, which rarely come upon the canvas; and I will add, such draughtsmen too are extremely uncommon, in that and other walks of painting. There is a right genial fire in the book, everywhere nobly tempered down into peaceful radical heat, which is very beautiful to see. Luminous, memorable; all wholesome, strong, fresh, and breezy, like the Old Red Sandstone mountains in a summer day. It is really a

long while since I have read a book worthy of so much recognition from me, or likely to be so interesting to sound-headed men of every degree."

To write a book, said Dr. Horne, which drew such an encomium from such a man was surely a notable achievement. In summing up, he might say that not only for his genius, but also for his loftiness of enthusiasm, for his singleness of mind, for independence of spirit, for his profound contempt for mere appearance, and for his genuine honesty of purpose, they did well to cherish the memory of Hugh Miller.

"His life was gentle, and the elements
So mixed in him, that Nature might stand up
And say to all the world, 'This was a man.'"

Mr. Bignold, M.P., in giving the "Guests," said—One of Hugh Miller's heroes, the great Sir Thomas Urquhart of Cromarty, expressed an earnest wish that a free school and standing library be established in every parish in Scotland. This wish, breathed 250 years ago, and published by Miller nigh upon 70 years ago, is now fairly on the road to realisation through the philanthropy of a single man, whose presence amongst us on this occasion is so singularly appropriate. I have heard that Mr. Carnegie is a lover of Burns. May I recall the verse the poet wrote of his benefactor, Lord Glencairn :

“The mother may forget the child,
That smiles sae sweetly on her knee ;
But I’ll remember thee, Glencairn,
And a’ that thou hast done for me.”

“*Mutato nomine de te fabula narratur.*” Read Carnegie for Glencairn, and Scotland’s memory will be truly told. I beg to express to you, sir, on behalf of the company, their appreciation of your presence here to-day, and to wish you every happiness this world can bestow.

Mr. Carnegie, who was loudly applauded, said—How envied he must be by the two gentlemen who sat before him, who had been Parliamentary candidates, when they saw him, a man who had the fortune to obtain a constituency without the slightest controversy whatever. The constituency which he represented by the toast was one difficult to measure. He saw before him a constituent from Canada—Sir James Grant—and he knew the learned Professor who was with them from Albany. He also saw in his constituency many friends he had met from the southern portion of this island, which it had become their duty to annex. It was an easy task for him to return thanks for the guests, because he knew that what he felt every guest there present must have felt in greater or less degree. The cause that brought them hither tended to place them in the right frame of mind to receive and benefit by the

heroes of the past. They came to the shrine to honour a name and to fulfil that homage which exalted a man. It was everything that they should offer up no thought or any word to anything or any individual who was not possessed of noble virtues. The more he read of Miller the higher he rose in his estimation. The guests came there to worship at this shrine, not that they had come to add anything to his fame, nor that they thought they could consecrate in any way these proceedings, but that they themselves might be consecrated to the greater purposes of life and pursue them as steadily and enthusiastically as he had from the first glimpse they got of him to the very last. Each and everyone of the guests must have felt the charm of Cromarty, and the brightness and commanding beauty of the site. He wished Cromarty that prosperity and that success which he knew from his own knowledge it so freely deserved.

Dr. Macadam Muir, Glasgow, proposed "Literature and Journalism." He said they thought of the debt which Hugh Miller owed to literature, but they could not forget the debt which literature owed to Hugh Miller.

Mr. James Barron, whose name was coupled with the toast, said he could not presume to represent literature, but all journalists were proud of the fact

that Hugh Miller was a member of their craft. He might be excused for adding that it was a subject of special pride to him that Miller's first contributions to prose literature appeared in the paper which he represented. The late Dr. Caruthers was Miller's life-long friend, and though they took different sides on public questions, no shadow ever clouded their intercourse.

Professor Middleton, Cambridge, in appropriate terms, proposed the "Geological Societies of Great Britain and America."

Sir James Grant, President of the Royal Society of Canada, acknowledged the toast. He said it afforded him the greatest possible degree of pleasure to be present at the celebration of the centenary of so great a scientist as Hugh Miller, and that not only on his own account, but on account of those he had the honour to represent. They were there that day to celebrate the great and masterly work accomplished in both science and literature by the master mind of the Stone Mason of Cromarty. His writings had not in any way lost their spirited attractiveness by the lapse of years, even although geological science, like every other department of science, had made great advances.

His name as a writer was not confined to geology. In the path of ecclesiastical controversy he was

found to be a power. The versatility of his knowledge was most remarkable, and had he undertaken a history of Scotland's geology, doubtless it would have been the chief work of his time. He was, in fact, a master of English literature, and wrote with all the power and cogency of a Scott or a Macaulay. He (Sir James) was delighted to find Dr. Carnegie present on this occasion, and more particularly so from his well-known philanthropic efforts in the great cause of education. His grand endowments, the outcome of successful efforts in the great Republic, where he occupied a position equally important to the one he filled so successfully here, were employed in helping on in the "Sea-girt Isle" the enlightenment of the young generation in the formative period of their intellectual development. He (Sir James) would carry back with him from his native land the warmest possible impressions of this great event, historic in character, and redounding to the credit of science.

Dr. J. Macewen, Edinburgh, proposed the toast of the "Committee in Cromarty," to whose exertions they owed the success of the demonstration.

Provost Junor intimated receipt of the following telegram: "A number of older inhabitants and public men of Portobello, cherishing with affection the memory of Hugh Miller's residence among them fifty years ago, meet this day at Shrub Mount

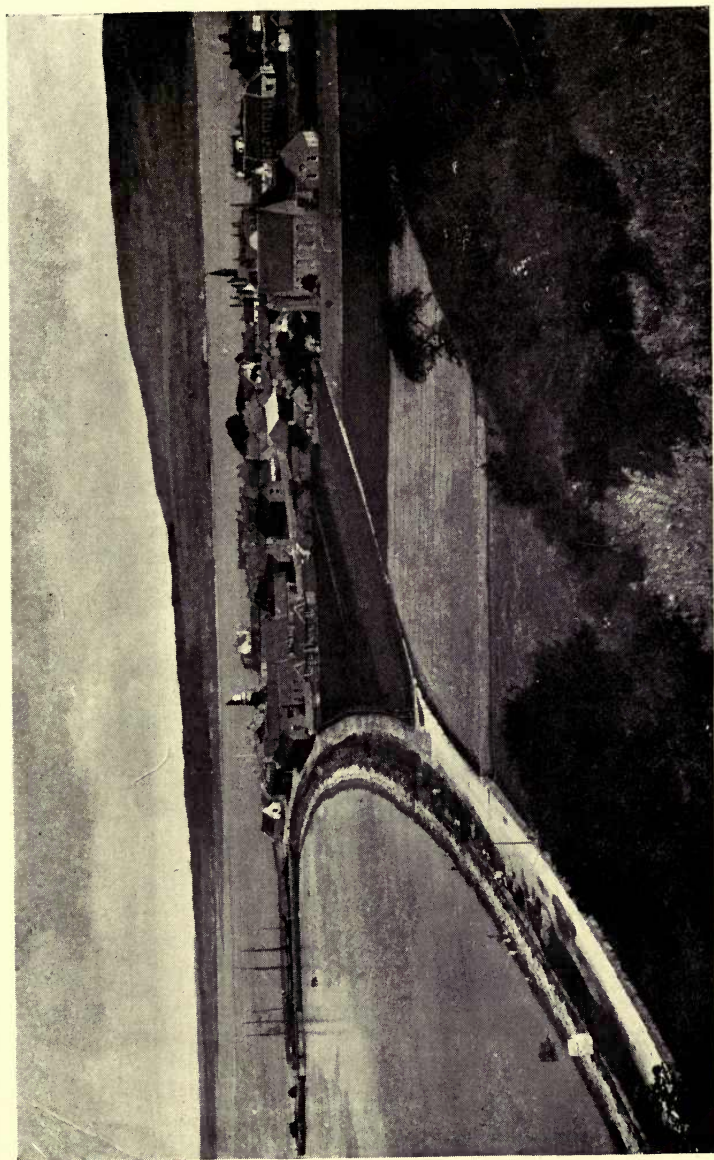
House. We desire to join with you in appreciation of one who was an honest, high-minded, earnest Scot, and in admiration of his services to science, literature, and religious freedom. His memory will long live as a benefactor of his country. We wish your centenary celebrations all success.—Ex-Provost T. Wood, Wm. Baird."

ADDRESS BY SIR ARCHIBALD GEIKIE,
D.C.L., F.R.S.

THE same afternoon a large assemblage met in the United Free Church to listen to an address by Sir Archibald Geikie on "Hugh Miller : His Work and Influence."

The chair was occupied by Sir Thomas Hanbury. Sir Archibald Geikie said :

Among the picturesque figures that walked the streets of Edinburgh in the middle of last century, one that often caught the notice of the passer-by was that of a man of good height and broad shoulders, clad in a suit of rough tweed, with a shepherd's plaid across his chest and a stout stick in his hand. His shock of sandy-coloured hair escaped from under a soft felt-hat ; his blue eyes, either fixed on the ground or gazing dreamily ahead, seemed to take no heed of their surroundings. His rugged features wore an expression of earnest gravity, softening sometimes into a smile and often



From Photo, by Valentine.

CROMARTY FROM WEST.

suffused with a look of wistful sadness, while the firmly compressed lips betokened strength and determination of character. The springy elastic step with which he moved swiftly along the crowded pavement was that of the mountaineer rather than of the native of a populous city. A stranger would pause to look after him and to wonder what manner of man this could be. If such a visitor ventured to question one of the passing townsmen, he would be told promptly and with no little pride "That is Hugh Miller." No further description or explanation would be deemed necessary, for the name had not only grown to be a household word in Edinburgh and over the whole of Scotland, but had now become familiar wherever the English language was spoken, even to the furthest western wilds of Canada and the United States.

A hundred years have passed since this notable man was born, and nearly half that interval has elapsed since he was laid in the grave. The hand of time, that resistlessly winnows the wheat from the chaff of human achievement, has been quietly shaping what will remain as the permanent sum of his work and influence. The temporary and transitory events in his career have already, in large measure, receded into the background. The minor contests in which, from his official position,

he was so often forced to engage are mostly forgotten; the greater battles that he fought and won are remembered rather for their broad and brilliant results than for the crowded incidents that gave them such vivid interest at the time. His contemporaries who still survive him—every year a sadly diminishing number—can look back across the half century and mark how the active and strenuous nature whose memory they so fondly cherish, now

“Orbs into the perfect star

We saw not when we moved therein.”

A juster estimate can doubtless be formed to-day of what we owe to him than was possible in his life-time. That the debt is great admits of no dispute, and that it is acknowledged to be due could hardly be more fittingly shown than by the wide-spread desire which has brought us here to-day from so many distant places in order to raise in the town of his birth, which he has made a place of pilgrimage to many a lover of English literature, a visible memorial of him in an institution of which he would himself have heartily approved.

In order adequately to realize the nature and extent of the work achieved by Hugh Miller during his too brief career, we should clearly picture to ourselves the peculiar conditions in which he grew up. Happily he has himself, in one of the

most charming pieces of autobiography in the language, told the story of his youth and early manhood. Descended from both a Highland and a Lowland ancestry, he combined in his nature the vivid imagination and poetic impulse of the Celt with the more staid and logical temperament of the Teuton. He was born amidst an English-speaking community, but at a distance of only a few miles from the fringe of the mountainous region within which men use the Gaelic tongue. He knew some survivors of Culloden, and had heard his own grandfather tell how, when a stripling, he watched, from the hills above Cromarty, the smoke wreaths of the battle as they drifted along the ridge on the further side of the Moray Firth. From infancy he was personally familiar with the people of the hills and their traditions, as well as with the ways of the hardy fisher-folk and farmers of the plains. The hereditary predispositions of his mind were in this way fostered by contact with the two races from which they sprang.

Happy in the possession of this racial blending, he was still more fortunate in the place of his birth. He used to remark with satisfaction that both Sir Roderick Murchison and he had been born on the Old Red Sandstone of the Black Isle; but while the career of the author of the "Silurian System" owed practically nothing to his birth-place,

which he left while still an infant, Miller's life from beginning to end bore the impress of the surroundings amid which he was born and educated. It would hardly be possible to choose in this country a place of which the varied features are more admirably fitted to stimulate the observing faculties, to foster a love of nature, and to appeal to the poetic imagination than the winding shores, the scarped cliffs, the tangled woods, the wild boulder-strewn moors and distant sweep of blue mountains around Cromarty. And how often and lovingly are these scenes portrayed by him under every varying phase of weather and season! They had stamped themselves into his very soul and had become an integral part of his being.

"The sounding cataract
Haunted him like a passion; the tall rock,
The mountain, and the deep and gloomy wood,
Their colours and their forms were then to him
An appetite, a feeling, and a love."

But while Nature was his first and best teacher, he has told us in grateful words how much he owed to two uncles—hard-working, sagacious, and observant men, by whom his young eyes were trained to discriminate flower and tree, bird and insect, together with the teeming organisms of the shore, and whose high moral worth he, even as a boy, could appreciate. Having learnt to read while still of tender years, he

developed an insatiable thirst for books. What he acquired in this way for himself seems to have been at least as useful as the training gained during the rather desultory years spent by him at the town grammar-school. He was an intelligent but wayward boy, as much ahead of his schoolmates in general information as in all madcap adventures among the crags and woods. When the time arrived at which he had to choose his calling in life, he selected an occupation that would still enable him to spend his days in the open air and gratify his overmastering propensity for natural history pursuits. Much to the chagrin of his family he determined to be a stonemason, and at the age of 17 was apprenticed to that trade. For some fifteen years he continued to work in quarries and in the erection of buildings in various districts of the north country, and even extended his experience for a short time into Midlothian. Deeply interesting and instructive is the record he has left of these years of mechanical toil. But amidst all the hardships and temptations of the life, the purity and strength of his character bore him nobly through. His keen love of nature and his intense enjoyment of books were a never-failing solace. He contrived to gain access to, and even by degrees to possess, a considerable body of the best literature in our language, reading some of his favourite authors over twice in a year. He thus laid up a store of

information and allusion which his retentive memory enabled him eventually to turn to excellent advantage.

While still at school he had gained some notice for the verses which he wrote. In the intervals of his subsequent labours with mallet and chisel, he continued to amuse himself in giving metrical expression to his feelings and reflections, grave or gay. Conscious of his power, though hardly yet aware in what direction it could best be used, he resolved to collect and publish his verses. At the age of seven-and-twenty he accordingly gave to the world a little volume with the title "Poems written in the leisure hours of a Journeyman Mason." Not without some misgiving, however, did he make this first literary venture. Even before the voices of the "chorus of indolent reviewers" could travel up from the south country, with their sententious judgments of the merits and defects of this new peasant-poet, he set himself to prepare some contributions in prose which might perchance afford a better measure of his quality. Some years before that time he had been out all night with the herring fleet, and he now sent to the *Inverness Courier* some letters descriptive of what he had then seen. These made so favourable an impression that they were soon afterwards reprinted separately. They marked the advent of a writer gifted with no ordinary powers of narration and with the command of a pure, nervous and masculine style.

The reception which these letters met with from men in whose judgment and taste he had confidence formed a turning point in his career. He now realised that his true strength lay not in the writing of verses, but in descriptive prose. Some years, however, still passed before he found the class of subjects on which his pen could most effectively be exercised. In the meantime he began to record the legends and traditions of his native district. Most of these had been familiar to him from childhood, when he heard them from the lips of old grey-headed men and women, but they were dying out of remembrance as the older generations passed away. Part of his leisure for several years was given to this pleasant task, until there grew up under his hand a bulky volume of manuscript. This time he was in no hurry to publish. The book did not make its appearance until 1835, as his charming "Scenes and Legends of the North of Scotland." In this work some of the most striking passages were to be found, not so much in the tales themselves which were narrated, as in the local colouring and graphic setting that were given to them. The writer displayed a singularly vivid power in the delineation of scenery, and his allusions to the geology of the district, then almost wholly unknown, attracted attention, since they showed that besides his keen eye for the picturesque above ground, he knew something of the marvels

that lay beneath. He was feeling his way to what ultimately became his most cherished and most useful task. He had realised that his main object should be to know what was not generally known, "to stand as an interpreter between nature and the public," and to perform the service of narrating, as pleasingly as he could, the facts which he culled in walks not previously trodden, and of describing, as graphically as might be, the inferences which he drew from them.

Ever after his first day's experience as an apprenticed mason in a stone-quarry, of which he has left more than one impressive account, he was led to interest himself in the diversified characters of the rocks of the district. Even as a boy he had been familiar with the more obvious varieties of stone to be met with in a tract of country wherein the sedimentary formations of the Lowlands and the crystalline masses of the Highlands have been thrown side by side. But he had been attracted to them rather on account of their singular shapes or brilliant colours, than from any regard to what might have been their different modes of origin. Now, however, he had discovered that these rocks are really monuments, wherein are recorded portions of the past history of the earth, and he was full of hope that by patient study he might yet be able to decipher them. The supply of elementary treatises and text books of science, in the present day so abundant, had hardly at that time begun to

come into existence. Geology, indeed, had but recently attained a recognised position as a distinct branch of science. And even had the young stonemason been able to possess himself of the whole of the scanty geological literature of the time, it included no book that would have solved for him the problems that daily confronted him as he pursued his labours in the quarry, or rambled in leisure hours along the shore. The best treatise which could have fallen into his hands and which would have been full of enlightenment and suggestion for him—Playfair's immortal "Illustrations of the Huttonian Theory"—had appeared seventeen years before; but we have no evidence that it came in his way. He had laboriously to work out his problems for himself.

Innumerable as are the subjects for geological enquiry offered by the district of Cromarty, it was fortunate for Hugh Miller, and not less so for the cause of science, that chance placed him face to face in the most practical way with the Old Red Sandstone, and that he was, as it were, compelled to attempt to understand its history. While the lessons taught by the strata of the quarry had greatly impressed him, the abundant and well-preserved fossils among the Lias shales of the Eathie shore, which at spare moments he visited, had deepened that impression. It was while endeavouring to find these shales nearer home, on the western side of the Southern Sutor, that

he stumbled upon the clays which contain the fish-bearing nodules of the Old Red Sandstone. This happy discovery, which was made in the autumn of 1830, the year after the publication of his "Poems," marks an eventful epoch in his life, as well as an important date in the history of geological investigation.

At that time comparatively little was known of the Old Red Sandstone. Its very existence as a distinct geological system was disputed on the Continent, where no equivalent for it had been recognised. It was alleged to be a mere local and accidental accumulation, which could hardly be considered as of much historical importance, seeing that no representative of it had been found beyond the British Islands. Yet within the limits of these islands it was certainly known to bulk in no inconsiderable dimensions, covering many hundreds of square miles, and attaining a thickness of more than 10,000 feet. It had been clearly shown by William Smith, the Father of English Geology, to occupy a definite position beneath the Mountain Limestone, and above the ancient "greywacke" which lay at the base of all the sedimentary series, and he had indicated its range over England and Wales, on his map published as far back as 1815. In Scotland, too, its existence and importance as a mere mass of rock in the general

framework of the country had long been recognised. Ami Boué had published in 1820 an excellent account of its igneous rocks, but without any allusion to the organic wonders for which it was yet to become famous. The extraordinary abundance of its fossil fishes, where it spreads over Caithness, had been made known to the world by Murchison in 1826, and in more detail the following year when Sedgwick and he read their conjoint paper on the conglomerates and other formations of the north of Scotland. But it may be doubted if any of these publications had found their way to Cromarty when Miller was gathering his first harvest of ichthyolites in the little bay within half-a-mile of the town. He had passed over that beach many hundreds of times in his boyhood without a suspicion of the treasures wrapped up in the grey concretions that lay tossing in the tideway. On breaking these stones, hoping to meet with a repetition of the Liassic organisms with which he had grown familiar at Eathie, he found a group of forms wholly different. At each interval of leisure he would repair to the spot, and digging out the nodules from their matrix of clay, would patiently split them open and arrange them along the higher part of the beach, according to what seemed to be the natural affinities of the fossils enclosed within

them. Scouring the parish for fresh exposures of the nodule-bearing clay, he was soon rewarded by the discovery of some six or eight additional deposits charged with the same remains. There was a strange fascination in this pursuit. He had, as it were, discovered a new world. No human eye had ever before beheld such strange types of creation. Though he was well acquainted with the marine life of the adjacent firths, he had never seen any creature that in the least resembled them, or served to throw light on their structure.

With no chart or landmark to guide him into this new domain of nature, he continued for years quietly to collect and compare. The first imperfect knowledge which he was able to acquire regarding the few modern representatives of the creatures disinterred by him at Cromarty was derived in 1836 from a perusal of the well-known memoir by Hibbert on the limestone of Burdiehouse. Next year, however, he made the acquaintance of Dr. Malcolmson, who eventually carried some of his specimens to London and the Continent, and was the means of bringing him into correspondence with Murchison and Agassiz. Hugh Miller was thus at last placed in direct communication with the world of science and into relation with the men who were most thoroughly versed

in the subjects that had so long engrossed his thoughts, and most capable of helping him to clear away the difficulties that beset his progress.

Meanwhile an important change had taken place in his condition of life. During the year 1834, after having worked for fifteen years in his calling of stone-mason, he was offered the accountantship of the Commercial Bank agency to be opened at Cromarty. This offer, which came to him unasked and unexpected, was a gratifying mark of the esteem and confidence with which his character was regarded. He accepted it, not without some diffidence as to his competence for the duties required. It would, however, retain him in his native town, enable him to marry the accomplished girl to whom he had for years been attached, and afford him opportunity to prosecute the researches in the Old Red Sandstone, of which he now came to realise the importance. It likewise provided him with leisure to prepare contributions to different periodicals, which, though of no great consequence to his reputation, were of service in adding to an income narrow enough for the support of a wife and family. These writings had this further advantage, that they gave him a readier command of the pen, and accustomed him to deal with lighter as well as graver subjects of discussion, thus furnishing a useful training for

what was ultimately to be the main business of his later life.

At this time ecclesiastical questions occupied public attention in Scotland to the exclusion of almost everything else. The Church was entering on that stormy period which culminated in the great Disruption of 1843. Hugh Miller, who was at once an earnest Christian and a devoted son of the Church, watched the march of events with the deepest sympathy. As a thoroughly "Establishment man" he had taken but slender interest in the previous Voluntary controversy, but the larger and more vital conflict now in progress filled him with concern. It was his firm conviction that the country contained "no other institution half so valuable as the Church, or in which the people had so large a stake." The anxiety with which the situation impressed him affected his sleep, and he would ask himself, "Can I do nothing for my Church in her hour of peril?" The answer which he found was to write his famous "Letter from one of the Scotch people to Lord Brougham." This pamphlet was soon after followed by another entitled, "The Whiggism of the Old School, as exemplified in the past history and present position of the Church of Scotland." These writings, so cogent in argument and so vigorous in style, had a wide circulation, and undoubtedly exercised much

influence on the progress of the ecclesiastical controversy throughout the country. The leaders of the non-intrusion party, with whose cause he showed such keen and helpful sympathy, soon after the appearance of the first pamphlet invited Miller to confer with them in Edinburgh, and offered him the editorship of their projected newspaper, the *Witness*. With some misgiving as to his competence to meet all the various demands of a journal that was to appear twice a week, he accepted the proposal. Thus, after his five years' experience as a bank-accountant, he became at the beginning of 1840, when he was thirty-seven years of age, the editor of an important newspaper, and he retained that position until his death.

Up to this time the name of Hugh Miller was but little known beyond his native district. His political pamphlets first gave it a wide reputation, and thenceforth his conduct of a journal that represented the interests of one of the great parties into which his country was divided kept him constantly before the eyes of the public. The *Witness* rapidly attained a large circulation. It appealed not merely to the churchmen whose views it advocated, but to a wide class of readers, who, apart from ecclesiastical polemics, could appreciate its high tone, its sturdy independence, its honesty and candour, and the unusual literary excellence of

its leading articles. It not only upheld but raised the standard of journalism in Scotland. As a great moral force it exercised a healthy influence on the community. There cannot be any doubt that the powerful advocacy of the *Witness* was one of the main agencies in sustaining the energies of the non-intrusion party and in consolidating the position of the young Free Church. It is my own deep conviction that the debt which that Church owes to Hugh Miller has never yet been adequately acknowledged.

Before he had been many months in the editorial chair he began to publish in the columns of his paper the first of that brilliant succession of geological articles which attracted the attention of men of science, as well as of the general public, and which continued to be a characteristic feature of the *Witness* up to the end of his life. The first articles, describing his discoveries in the Old Red Sandstone of Cromarty, created not a little sensation among the geologists who had gathered in the year 1840 at the memorable meeting of the British Association in Glasgow. It was there that Agassiz, who had come fresh from the study of Swiss glaciers to the Scottish Highlands, announced that he had found clear evidence that the mountains of this country had once also nourished their glaciers and snow-fields. It was then, too, that the same illustrious naturalist gave the first account

of the fossils found by Hugh Miller at Cromarty, one of which he named after its discoverer. In that gathering of eminent men, Murchison declared that the articles which had been appearing in the *Witness* were "written in a style so beautiful and poetical as to throw plain geologists like himself into the shade." Buckland, famous for his own eloquent pages in the *Bridgewater Treatise*, expressed his unbounded astonishment and admiration, affirming that "he would give his left hand to possess such powers of description." The articles were next year collected and expanded into his "*Old Red Sandstone, or New Walks in an Old Field*"—the first and, in some respects, the freshest and most delightful of all his scientific volumes.

In subsequent years there appeared in the same columns his "*Cruise of the Betsy*"—a series of papers written among the Western Isles, and full of the poetry and geological charm of that marvellous region; his "*Rambles of a Geologist*," in which he included the results of his wanderings over Scotland between 1840 and 1848, and other essays, the more important of which were collected with pious care by his widow, and published in a succession of volumes after his death. His "*First Impressions of England and its People*" appeared in 1846, and greatly increased the reputation of its writer as an observant traveller, an able critic, and an accomplished writer,

possessing a wide and sympathetic acquaintance with English literature. The "Footprints of the Creator," which followed in 1847, was of a less popular character. Its detailed account of the structure of some of the fishes of the Old Red Sandstone is, however, of lasting value, though its controversy with the "Vestiges of Creation" has now little more than an historical interest. The "Schools and Schoolmasters," after running as usual through the pages of the newspaper, was issued as a separate volume in 1852, and was everywhere hailed as one of the most delightful and instructive of all his works. The "Testimony of the Rocks," with the final proofs of which he was engaged on the last day of his life, was issued a few months after he had been laid to rest beside his friend Chalmers. Altogether of his collected writings, including those that appeared in his lifetime, a series of twelve volumes has been published, but many hundreds of articles of less permanent interest, yet each marked by the distinctive charm of its writer, remain buried in the files of the *Witness*.

If, from his writings alone, we judge of the extent and value of the work achieved by Hugh Miller, we can have little hesitation in believing that it is mainly his contributions to the literature of science that will hand his name down to future generations. Like so many other men who have attained distinction in the same field, he from the beginning to the end made

geology his recreation, in the midst of other paramount pre-occupations. It furnished him with solace from the toils of the quarry and the building yard, it supplied him with a healthful relief from the labours of the bank, and when in later years he escaped each autumn for a few weeks of much needed leisure from the cares and responsibilities of the Editor's desk, it led him to ramble at will all over his native country, and brought him into acquaintance with every type of its rocks and its landscapes.

Unquestionably the most original part of his scientific work, that wherein he added most to the sum of acquired knowledge, is to be found in his reconstruction of the extinct types of fishes which he discovered in the Old Red Sandstone. The merit of these labours can hardly be properly appreciated unless it be borne in mind that he came to the study of the subject with no preliminary biological training save what he could pick up for himself from an examination of such denizens of the neighbouring firths as he could meet with. But after prolonged search he could find in these northern seas no living creatures, the structure of which afforded him any clue to that of the fossil fishes of Cromarty. Some men had concluded that the organisms were ancient turtles, others that they were crustacea or even aquatic beetles. He had the sagacity, however, to surmise that they were probably all fishes, and he

enjoyed the satisfaction afterwards of learning that Agassiz pronounced even the most bizarre amongst them to belong to that great division of the animal kingdom. He was guided by his own intuitive conception of what must have been the plan on which these long vanished types of organic structure had been fashioned. Huxley, who twenty years afterwards had occasion to subject the Old Red Sandstone fishes to critical study, and who brought to the enquiry all the resources of modern biology, has left on record the impression made on his mind by a minute revision of Hugh Miller's work. "The more I study the fishes of the 'Old Red,'" he remarks, "the more am I struck with the patience and sagacity manifested in Hugh Miller's researches, and by the natural insight which in his case seems to have supplied the place of special anatomical knowledge." He refers to the "excellent restoration of *Osteolepis*," in which even some of the minute peculiarities had not escaped notice, and he declares that Hugh Miller had made known almost the whole organisation of *Dipterus*, and had thus anticipated the most important part of Professor Pander's labours in the same field, the distinguished Russian palæontologist not having been aware that the work had already been done in Scotland.

But it is not, in my opinion, by the extent or value of his original contributions to geology that the importance of Hugh Miller's scientific labours and

writings should be measured. Other men, who have left no conspicuous mark on their time, have surpassed him in these respects. What we more specially owe to him is the awakening of a wide-spread interest in the methods and results of scientific enquiry. More than any other author of his day, he taught men to recognise that beneath the technicalities and jargon that are too apt to conceal the meaning of the facts and inferences which they express, there lie the most vital truths in regard to the world in which we live. He clothed the dry bones of science with living flesh and blood. He made the aspects of past ages to stand out before us, as his vivid imagination conceived that they must once have been. He awakened an enthusiasm for geological questions such as had never before existed, and this wave of popular appreciation which he set in motion has never since ceased to pulsate throughout the English-speaking population of the world. His genial ardour and irresistible eloquence swept away the last remnants of the barrier of orthodox prejudice against geology in this country. The present generation can hardly realise the former strength of that bigotry, or appreciate the merit of the service rendered in the breaking of it down. The well-known satirical criticism of the poet Cowper expressed a prevalent feeling among the orthodox of his day, and this feeling was still far from extinct when Miller began

scientific reader, may be regarded as a defect by the strict and formal geologist. Like every other branch of science, geology rests on a basis of observation, which frequently depends for its value upon the minuteness and accuracy of its details. To collect these details is often a laborious task, which is seldom undertaken save by those to whose department of the science they specially belong. A palæontologist cannot be expected to devote his time to the study of the microscopic characters of minerals and rocks. He leaves that research to the petrographer, who, on the other hand, will not readily embark on an investigation of the minute anatomy of fossil plants or animals. This specialisation, which has always to some extent existed, necessarily becomes more pronounced as science advances. The days are far past for Admirable Crichtons, and it is no longer possible for any one man to be equally versed in every branch of even a single department of natural knowledge.

Hugh Miller's researches among the Old Red Sandstone fishes showed him to be above all a naturalist and palæontologist, capable of expending any needful amount of patient labour in working out the minutest details of organic structure. In other fields of geological enquiry, while he was far from undervaluing the importance of detail, he avoided the recapitulation of it in his writings. It interested him, indeed, only

in so far as it enabled him to reach some broad conclusion or to fill in the canvas of some striking picture of bygone aspects of the earth's surface. Hence he did not apply himself to the minute investigation of problems of geological structure, and when he undertook any enquiry in that direction he was apt to start rather from the palæontological than the physical side. Thus the work of his last years along the shores of the Firth of Forth, wherein he sought to accumulate proofs of the comparatively recent upheaval of the land, was mainly based on the position of shells with reference to their present habitat in the adjacent seas. As a youth enthusiastically geological, I was privileged to enjoy his friendship, sometimes accompanying him on an excursion, and always spending an evening with him after one of his autumn journeys, that we might exchange the results of our several peregrinations. Only a week or two before his death, on the last of those memorable evenings, he had his trophy of shells spread on the table, which enabled him to prove that at no very distant date Scotland was cut in two by a sea-strait that connected the Firths of Forth and Clyde. He had found marine shells at Bucklyvie, on the flat ground about midway between the two estuaries. Finding I was not quite clear as to the precise geographical position of his shell-bed, he burst out triumphantly with the lines placed by Scott at the

head of the chapter in "Rob Roy," which tells of the journey of Bailie Nicol Jarvie and Osbaldistone into the Highlands :

" Baron of Bucklyvie
May the foul fiend drive ye,
And a' to pieces rive ye,
For building sic a toun,

Where there's neither horse meat, nor man's meat, nor a chair
to sit doun."

I remember, too, that on that occasion I had brought with me the detailed map of Arthur's Seat at Edinburgh, of which I had just completed the geological survey, and I explained to him in some detail what I had found to be the structure of the hill. Having grasped the main succession of the rocks, he with characteristic rapidity passed from the particulars which I had given him to the events of which they were the record, and turning to his daughter, who was sitting near, he exclaimed to her, "There, Harriet, is material for such an essay as has been prescribed to you at school." Then in a few graphic sentences he drew a picture of what seemed to him to have been the history of the old volcano.

While various causes no doubt contributed in this country to the remarkable and rapid increase in the general appreciation of the interest of geological investigation, I feel assured that one of the chief of them has been Hugh Miller's imaginative

grasp of the subject and his eloquent advocacy. The personal experience of a single individual can count for little in an estimate of this kind; but for what it may be worth, I gladly avail myself of this opportunity to state mine. It was Hugh Miller's "Old Red Sandstone" that first revealed to me the ancient history that might be concealed in the hills around me, and the meanings that might be hidden in the commonest stones beneath my feet. I had been interested in such objects, as boys are apt to be who spend much of their time in the open country. But it was that book which set me on the path of intelligent enquiry. And this experience must doubtless have been shared by many thousands of his readers, who never saw his living face and who never became geologists.

I have alluded to the excellence of his literary style—a characteristic which unfortunately is only too rare among writers in science. There can be little doubt that this feature of his work will constitute one of its claims to perpetual recognition. His early and wide acquaintance with our literature enabled him to intersperse through his pages many an apposite quotation and felicitous allusion. He had set before himself as models the best prose writers of the previous century, and the influence of Goldsmith upon him is especially notable. He thus acquired the command of pure, idiomatic and forcible

language wherein to clothe the arguments which he wished to enforce, to describe the landscapes which had imprinted themselves like photographs on his memory, and to present restorations of ancient lands and seas which his poetic temperament and powerful imagination called up before his eyes. Moreover, he had a keen sense of humour, which would show itself from time to time, even in the midst of a scientific discussion. He could not bear dulness in others, and strove to avoid it himself. Where his subject might have been apt to grow wearisome, he contrived to lighten it with unexpected flashes of pleasantry or with some pertinent words from a favourite author. This felicitous style seemed so spontaneous, and yet it was in reality the result of the most scrupulous attention. Even in his newspaper articles on the multifarious topics of the passing day, he continued to maintain the same high standard of composition. He has left as his literary monument a series of works that may serve as models of English writing.

In estimating a man's influence on the world we look not only at his work but on his character, often the more important and valuable of the two. Judged from this side, Hugh Miller's claims to our regard and admiration are not less strong for what he was than for what he did. Pious and pure-minded, full of generous sympathies, and alive to

all that was noblest and best in human life, he was endowed with a manly independence of nature which kept his head erect in every changing phase of his career, and won for him the respect of all, gentle and simple, who came in contact with him. Though naturally robust, his occupation as a mason had left behind some seeds of disease. He was at different times attacked with inflammation of the lungs and other disorders of enfeebled health. His strong sense of duty, however, kept him at his post when prudence earnestly counselled rest. At last the strain became too great, and brought a noble and well-spent life to a sudden and tragic end.

It is to me a valued privilege to take part to-day in the centenary celebration of such a man. The years slip away, and I am probably the only geologist now alive who knew Hugh Miller well. He was my earliest scientific friend. Some boyish articles I had written in an Edinburgh newspaper on a geological excursion to the Isle of Arran had gained me his acquaintance, and ever thereafter I enjoyed his friendship and profited by his encouragement. To his helpful intervention I owed my introduction to Murchison, and thence my entry into the Geological Survey. His death was one of the great bereavements of my youth. It is therefore with heartfelt gratification that here, in his native town, so early familiar to me from his graphic descriptions, I find



From Photo. by Valentine.

AMONG THE CROMARTY ROCKS.

myself permitted on this public occasion gratefully to express my life-long indebtedness to him for his noble example, for the stimulus of his writings, and for the personal kindness which I received at his hands.

Colonel Ross of Cromarty proposed a vote of thanks to the lecturer, which was seconded by Dr. Eastman, of Harvard University, America, and carried with acclamation. This brought the day's celebrations to a close. A steamer excursion to the rocks had to be abandoned for want of time.

PRESS COMMENTS.

From *The Times*, 21st August, 1902.

TO-MORROW will be celebrated in the picturesque little town of Cromarty the centenary of one of its sons, a man of letters and science, who was among the notables of his land, and who may hereafter stand out more clearly in the history of the nineteenth century than he now does. Just at present the sun does not shine full on Hugh Miller's fame. Some of his scientific theories, mixed too largely with his theological opinions, have not stood the test of discussion. Ours is a generation which finds it difficult to understand some of the problems to which he gave so much of his life. Not a few of his best years were devoted to a controversy which, in view of what has lately taken place in the Scotch ecclesiastical world, may now be safely said to have acquired excessive and unreasonable importance, and to have engendered much bad blood. Then, too, the type of literary excellence

in which he aspired to be perfect is for the time not in favour. The poets whom he knew best were Milton, Cowley, Dryden, and Thomson. He was not ashamed to quote Dr. Johnson as a poet. His prose models were Swift, Addison, and Goldsmith. He loved order and proportion and harmony; his distinctive qualities would be distasteful to a hasty, voracious, and *blasé* reader. We would make even greater concessions to those who speak of him as a spent force, a name and little more. To a truly lamentable degree he squandered his genius in controversies which were not worthy of him, in supporting local prejudices, in defending narrow-minded ecclesiastics, in weaving ingenious and sophistical "reconciliations" of diversities which now give theologians little trouble. What would Hugh Miller, the wanderer among rocks and woods, the reader of forgotten books, the acute observer, the gleaner of old traditionary stories, the skilful painter of Nature—what would he have been had his life been less sunless, his toil less exacting, his themes worthier, and the intellectual atmosphere which he breathed been freer? On every page stands out one characteristic of his genius; his style, his train of thought, his mental temperament intended him for a large world, including all who appreciate fancy, and purity, and richness of speech; his themes are too often local and narrow;

his pen is too often pressed into the service of ecclesiastical combatants. It is the truth, though one not likely to be stated at Cromarty to-morrow, that it would have been well for him if he had at an early age wandered far away from the land which he loved so well. It is possible that he would have been more himself, less sombre, less the exponent of the classical literature of a bygone age, had he cast loose from the associations—at all events, the ecclesiastical associations—which were strong upon him.

And yet, as he is, with all the imperfections born of a narrow life clinging to him, what treasures are scattered through the half-dozen volumes of his works! To name only one quality, less noticeable in these days when vivid description of scenery is a common art, here is one who wrote before Ruskin, and who owed nothing to Chateaubriand and the other famous verbal colourists, and who is surpassed by few of them. In *The Old Red Sandstone* and *The Testimony of the Rocks* are passages in which are combined vividness, tenderness, and fancy, exact portraiture, and, rarest gift of all in a word-painter, a sense of moderation and justness not to be found in earlier English prose literature. No doubt before his time there had been attempts to blend science with literature. Humboldt's letters tell us what pains he took to depict accurately and

vividly, but with charm and grace, the aspects of Nature; to give at once "pure objectiveness and reflectiveness"; to reflect, as his biographer tells us, "all the received rays in the purest light, but having a collective ideal focus in the background." We are not sure, though it is applying a high standard, whether the attempt to unite strict scientific accuracy with imaginative writing—perhaps impossible to realise continuously—has ever been carried further than by Hugh Miller in the best passages of his writings. Then, too, what gifts of narrative, what fulness and vividness of life, are displayed in the autobiographical passages! There are few more real books, with more enduring charm, than his *Schools and Schoolmasters*. It has been the joy of some generations of his countrymen. Among the half-dozen books which have influenced young Scotchmen is this story—modest, truthful, but with a background of romance—of a full, strenuous, manly life. Such a book as *The Scenes and Legends of the North of Scotland*, with such tales as "The Chaplain's Lair," makes one regret that Miller ever turned away from imaginative literature to geology and politics. And then, too, with all the strain of narrowness and with occasional outbursts of acerbity, what a wholesome and robust tone is found in one and all of his books; what excellent precepts to the class from which he sprang and to

which he ever felt most kindly! "Occupy your leisure in making yourselves wiser men. Learn to make a right use of your eyes; the commonest things are worth looking at—even stones and weeds and the most familiar animals. Read good books, not forgetting the best of all." "Find pleasure in what pertains to your daily work. Bury your sorrows in Nature's silences and solitudes; seek comfort in familiarity with her; be temperate, be strong, be brave," that is the staple of his advice; not very profound or recondite, but conducive to clean and wholesome lives. It is often made a reproach to him that he had little sympathy with many of the aspirations of his own class. And no doubt some of its members resented such sayings frequent in his writings, as these: "There exists an aristocracy in the very economy of nature." "You will gain nothing by attending Chartist meetings"; "leave them to harangue unheeded." But he did much good to those among whom he was born; more than any other Scotchmen of his time he helped to bring the educated peasantry of his country into touch with the treasures of English literature. Altogether the Cromarty festival is as well deserved as it is opportune. It was time to remind the world that Scotland has produced other literature than that of the "kailyard."

From the *Edinburgh Evening News*.

In regard to intellectual advantages there is a glaring contrast between the Scotland of to-day and that of a century ago. A century ago Scotland was a poor country, given over to all kinds of disadvantages and distractions. Scotland to-day is a member of a great nation, enjoying the blessings of culture, refinement, and prosperity. And yet the strange fact remains, that in the days of adversity Scotland produced a higher type of men than she now does, men of heroic mould, who have left their impress upon civilisation, men who, born in lowliness and obscurity, burst the bonds of circumstance and grasped the sceptre of enduring fame. We have our great schools and universities, our libraries, our free education. Are the products of these any better than the men who, in the intervals of a grim existence, snatched time for self-culture? Learning, difficult to get in the old days, drew forth all the energies of the poor Scottish lad, and he rested not till he had entered the inner sanctuary of the temple of knowledge. To the modern Scottish lad learning comes as a matter of course. His nature is not braced, and the result too often is a youth of indifference followed by a manhood of mediocrity. These observations receive point from the Hugh

Miller celebrations in Cromarty. Born in circumstances which might well have seemed fatal to intellectualism, even of the meagrest kind, Miller, by dauntless perseverance, rose on the stepping stones of adverse fate to high influence and honour. We are often told that universities are the homes of a many-sided culture. It would be difficult to find a product of university life who surpassed Hugh Miller. As an essayist he still holds a high place. His literary powers were keener, and his insight deeper, than university men of great culturistic pretensions. His range of knowledge was wide, while the work he did in geology placed him in the front rank of science. When attention is paid to the fact that his intellectual treasures were stored, not in a leisured university, but in the intervals of a working man's life, our regard for the Cromarty stone-mason passes into admiration. It is too much the fashion to deal with Miller as if he had wasted his great powers in the Disruption struggle. It seems to be taken for granted that he was constantly employed upon ecclesiastical topics. That is a great mistake. As editor of the *Witness*, Miller proved himself to be a journalist of great range of thought. On all social and economic questions relating to Scotland he could be calculated to pronounce the sanest and soberest judgment; and even now the modern

journalist will get valuable hints from the politico-economic writings of the *Witness*. But, after all, to us of to-day, especially to the young men of Scotland, the value of Hugh Miller's life-work lies in its inspirational quality. The youth of Scotland are in danger of being demoralised by two things—a love of pleasure and a social comfort which dispenses with struggle. Hugh Miller's life was a splendid illustration of the truth that human development is best secured, not by legislation, not by collective organisation, but by individual energy, which, when allied to high aims, converts difficulties themselves into stepping-stones to high achievement.

From the *Glasgow Herald*.

When all inevitable deductions have been made, it is a fine and altogether manly figure that is presented by his achievement, his character, and his career. His love of science and of literature, and his aptitude for both, are evidence of a nature with no narrowness about it; and when we remember that he was not only essayist and geologist, but also a keen and thoroughly conscientious journalist and controversialist, a rare amplitude and variety of energy and interest must be recognised. His genuine love of literature, and

his no less genuine gift for it, are unmistakable. His style—though not lacking in faults which betray his disadvantages—is natural, vigorous, animated, never vulgar, and capable of eloquent bursts and brilliant flights. The Mosaic vision of creation in the *Testimony of the Rocks* is not very far below Ruskin, while *My Schools and Schoolmasters* is one of the most delightful of autobiographies, fragrant with kindness, modesty, simplicity, and perfect self-respect. When to these we add the virile energy and strenuous purpose of his life, his disinterested love of Nature and books, and the conspicuous elevation and natural dignity of his character, it will not be denied that he is among the number of Scotsmen who well deserve remembrance through the centuries in their countrymen's hearts.



From Photo. by Valentine.

CROMARTY FROM THE HILL.

CROMARTY.

THIS quaint old-world town has an interesting history. Its records date back to the thirteenth century, but it has not shared to any extent the prosperity of recent times. No doubt Cromarty has suffered from its isolated position. Prior to the introduction of railways its excellent harbour stood it in good stead, and for a time it was a maritime centre of some importance. With the advent of the railway in the North, and the consequent isolation of the Black Isle peninsula, Cromarty began to decline, and it may be said, so far as trade is concerned, the process still goes on.

When there is once more a revival of the town's prosperity, it will no doubt be largely on account of its picturesque surroundings. "It would hardly be possible," says Sir Archibald Geikie, "to choose in this country a place of which the varied features are more admirably fitted to stimulate the observing faculties, to foster a love of nature, and to appeal to the poetic imagination than the winding shores, the scarped cliffs, the tangled woods, the wild

boulder-strewn moors and distant sweep of blue mountains around Cromarty."

Within recent years Cromarty has maintained a growing reputation as a summer resort. Not a few visitors are attracted to the place on account of the name of Hugh Miller, the chief centre of attraction being the cottage in which he was born. In connection with the centenary celebrations, the Miller family have had Hugh Miller's collection of fossils and manuscripts, and other interesting relics, systematically arranged in his birthplace. A guide to the collection has now been prepared by Mr. Goodchild of the Edinburgh Museum of Science and Art. The collection is open to the public. The fine walks in the neighbourhood, so frequently described by Miller, are another source of attraction.

Cromarty is also the birth-place of Sir Thomas Urquhart, a noted writer of the seventeenth century.

From first to last, Hugh Miller's associations with Cromarty were peculiarly close and affectionate. On Centenary Day his townsmen showed their regard for his memory; the decorations and the holiday aspect of the town were appropriate to the occasion. Possibly never before did Cromarty look so gay.

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